US008284568B2

(12) **United States Patent**
Xiao

(10) **Patent No.: US 8,284,568 B2**
(45) **Date of Patent: Oct. 9, 2012**

(54) **KEY BUTTON MECHANISM AND PORTABLE ELECTRONIC DEVICE USING SAME**

(75) Inventor: **Zhi-Qiang Xiao**, Shenzhen (CN)

(73) Assignees: **Shenzhen Futaihong Precision Industry Co., Ltd.**, ShenZhen, Guangdong Province (CN); **FIH (Hong Kong) Limited**, Kowloon (HK)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 240 days.

(21) Appl. No.: **12/893,017**

(22) Filed: **Sep. 29, 2010**

(65) **Prior Publication Data**

US 2011/0228494 A1 Sep. 22, 2011

(30) **Foreign Application Priority Data**

Mar. 19, 2010 (CN) 2010 1 0127404

(51) **Int. Cl.**
H05K 7/02 (2006.01)
H05K 7/04 (2006.01)

(52) **U.S. Cl.** **361/810**; 361/748; 361/809

(58) **Field of Classification Search** 361/720, 361/736, 748, 760, 807, 809, 810
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,148,183	A *	11/2000	Higdon et al.	455/575.1
7,034,238	B2 *	4/2006	Uleski et al.	200/500
7,554,050	B1 *	6/2009	Lv	200/339
7,812,271	B2 *	10/2010	Lee et al.	200/5 R
7,990,695	B2 *	8/2011	Lv	361/679.3
8,017,882	B2 *	9/2011	Yang et al.	200/343
8,089,772	B2 *	1/2012	Chen	361/752

* cited by examiner

Primary Examiner — Hung S Bui
(74) *Attorney, Agent, or Firm* — Altis Law Group, Inc.

(57) **ABSTRACT**

A key button mechanism and a portable electronic device using same are provided. The key button mechanism includes a key button and an elastic element integrally formed with the key button. The elastic element includes a main body and two elastic arms extending out, backward from the main body and located at two opposite ends of the main body respectively. The main body includes two resisting blocks protruding from one surface thereof away from the key button side and are located adjacent to the two opposite ends of the main body.

14 Claims, 4 Drawing Sheets